UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/543,054	04/05/2000	Gopal Parupudi	MS1-507US	7234

				EXAMINER
22801	7590	02/02/2004		BARQADLE, YASIN M

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ART UNIT	PAPER NUMBER
2153	

DATE MAILED: 02/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/543,054	PARUPUDI ET AL.
	Examiner	Art Unit
	Yasin M Barqadle	2153

-- The MAILING DATE of this communication appears on the cov r sh t with th corr spond nce address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on _11 December 2003_.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _1-67_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) _1-67_ is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

    a) ☐ The translation of the foreign language provisional application has been received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _15-16_.

4) ☐ Interview Summary (PTO-413) Paper No(s). _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: .

Response to Amendment

1.   Applicant's request for reconsideration of the finality of
the rejection of the last Office action is persuasive and,
therefore, the finality of that action is withdrawn.

2.   Claims 1-67 are presented for examination.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms
the basis for all obviousness rejections set forth in this Office
action:

> (a) A patent may not be obtained though the invention is not identically
> disclosed or described as set forth in section 102 of this title, if the
> differences between the subject matter sought to be patented and the prior
> art are such that the subject matter as a whole would have been obvious at
> the time the invention was made to a person having ordinary skill in the
> art to which said subject matter pertains. Patentability shall not be
> negatived by the manner in which the invention was made.

3.   Claims 1-7,10,13-18,20,23-28,32-36, 45-55, and 58-61,and 66
are rejected under 35 U.S.C. 103(a) as being unpatentable over
Merriam US (6401051) in view of Wang US (5539922).

As per claims 1, 13, 23 and 32 Merriam teaches a computing
device comprising:

one or more processors [Fig.2a, device 102, 212 and Col. 3,

lines 43-48];

memory operably associated with the one or more processors
[[Fig.2a, device 102, 214 and 224 and Col. 3, lines 43-54]; and
a context service module loadable in the memory and executable
by the one or more processors to receive context information
from one or more context providers (Fig.2a, device 106) and
process the information to determine a current device context
[col. 3, lines 43 to col. 4, lines 5], at least one node
associated with context information (location of the dig site
col. 3, lines 5-10).

Although Merriam shows substantial features of the claimed
invention, he does not explicitly show traversing a hierarchical
tree structure of which said at least node comprises a part.

Nonetheless, this feature is well known in the art and would
have been an obvious modification of the system disclosed by
Merriam, as evidenced by Wang USPN. (5539922).

In analogous art, Wang disclose a communication system with
hierarchical system of nodes organized into multiple node trees
(fig. 22 and fig. 12), the hierarchical system is capable of
tracking the location of the transceiver as it moves between
nodes and the hierarchical tree structure [abstract. See also
col. 12, lines 18-41].
Giving the teaching of Wang, a person of ordinary skill in the
art would have readily recognized the desirability and the
advantage of modifying Merriam by employing the system of Wang
in order to provide a method of linking root nodes of various

trees and for the advantage of efficiently tracking a device location in a hierarchical system.

As per claims 2,14, 24 and 33 Merriam teaches computing device embodied as a mobile computing device [col. 1, line 5 and Col. 3, lines 5-8].

As per claims 3, 15, 25 and 34, Merriam teaches computing device embodied as a desktop computing device [col. 1, line 5 and Col. 3, lines 5-8].

As per claim 4, Merriam teaches computing device wherein the device comprises cache memory that maintains a current device context [Col. 3, lines 45-56].

As per claims 5 and 16, Merriam teaches computing device wherein the context service module is configured to automatically receive the context information from the context providers [col. 3, lines 5-10 and col. 3, lines 61 to col. 4, lines 5].

As per claims 6 and 17, Wang as modified teaches the computing device of claim 1, wherein the context service module is configured to automatically receive the context information from the context providers and, as the context of the computing device changes, process the information to determine a new current device context [Col. 5, lines 49 to col. 6, line 31].

As per claims 7 and 18, Merriam teaches the computing device wherein the context service module is configured to request context information from one or more of the context providers [col. 3, lines 43 to col. 4, lines 5].

As per claims 10 and 20, Merriam teaches the computing device of claim 1 further comprising a context provider interface associated with the context service module, the context provider interface comprising a common interface that is capable in receiving context information from multiple different context providers [Col. 5, lines 49 to col. 6, line 31].

As per claim 26, Merriam teaches a computing device wherein the location service module is configured to determine the current device location [col. 3, lines 43 to col. 4, lines 5],
As per claim 26, Wang teaches traversing multiple nodes of the hierarchical tree [fig. 12, and col. 5, lines 1-25; col. 12, lines 18-41].

As per claims 27 and 28, Wang teaches the computing device further comprising another hierarchical tree structure resident on the media and comprising multiple nodes each of which represents a physical or logical entity, the location service module being configured to determine the current device location by traversing multiple nodes of the hierarchical trees [col. 5, lines 1-25; col. 10, 51-56];

a link between nodes on the different trees, the location

service module being configured to determine the current device

location by traversing multiple nodes of the hierarchical trees

[see fig. 12 and fig.22; col. 5, lines 1-25; col. 10, 51-56; and

col. 12, lines 18-41].

As per claims 35 and 36, the claims include similar limitations

as claims 1,13, and 23 above. See the rejection on claims 1,13

and 23 above.

As per claim 45, Merriam teaches a computer-implemented method of

determining a computing device context comprising:

        receiving, with a computing device, information that pertains

to a current context of the device [col. 3, lines 43 to col. 4,

line 31].

        processing the information on and with the device to

ascertain the current context of the computing device [col. 3,

line 43 to col. 4, line 5].

As per the limitation determining, from the context information,

at least one node associated with the context information and

traversing at least a portion of a hierarchical tree structure

of which said at least node comprises a part [see the

combination and the rejection made on claims 1,13 and 23 above].

As per claim 46, Merriam teaches the computer-implemented method of claim 45, wherein said receiving comprises receiving the information with a mobile computing device [col. 1, line 5 and Col. 3, lines 5-8].

As per claim 47, Wang teaches the computer-implemented method of claim 45, wherein said receiving comprises receiving the information with a hand-held computing device [Col. 3, lines 55-62].

As per claim 48, Merriam teaches the computer-implemented method of claim 45, wherein said receiving comprises receiving the information with a desktop computing device [col. 1, line 5 and Col. 3, lines 5-8].

As per claim 49, Merriam teaches the computer-implemented method of claim 45, wherein the current context is the device location [col. 3, lines 43-67].

As per claim 50, Merriam teaches the computer-implemented method of claim 49, wherein the receiving of the information comprise receiving information from multiple different location providers [col. 3, lines 43 to col. 4, lines 31].

As per claim 51, Merriam teaches computer-implemented method of claim 50, wherein the information that is received from the

multiple different location providers is received in different
forms [col. 3, lines 43 to col. 4, lines 31].

As per claim 52, Merriam teaches the computer-implemented method
of claim 50, wherein the receiving of the information comprises
receiving the information through a common interface [col. 4,
lines 10-31].

As per claim 53, Merriam teaches the computer-implemented method
of claim 45, wherein the receiving of the information comprise
receiving information from multiple different context providers
[col. 3, lines 43 to col. 4, lines 31].

As per claim 54, Merriam teaches the computer-implemented method
of claim 53, wherein the information that is received from the
multiple different location providers is received in different
forms [col. 4, lines 10-31].

As per claim 55, Merriam teaches computer-implemented method of
claim 53, wherein the receiving of the information comprises
receiving the information through a common interface [col. 3,
lines 43 to col. 4, lines 31].

As per claims 58-60, the claims include similar limitations as addressed above on claims 1 and 13 and claims 45-57. Therefore, they are rejected for the same reason.

As per claim 61, Wang teaches the computer-implemented method of claim 60, wherein one tree structure comprises a unique representation of a physical or logical entity [Col. 1, lines 50-67].

As per claim 66, Wang teaches the computer-implemented method of claim 59 further comprising before processing the information to ascertain a node, resolving any conflicts that might exist between information that is received from different location providers [col. 12, lines 18-41].

4.   Claims 8-9, 11-12, 19,21-22,29-31, 37-44, 56-57,62-65 and 67 are rejected under 35 U.S.C. 103(a) as being unpatentable over Merriam US (6401051) in view of Wang US (5539922) and further in view of Reed et al US (6088717).

As per claims 8, 19, and 29,Merriam teaches the computing device of claim 1, wherein the context service module is configured to provide information concerning a current device context [col. 3, lines 43 to col. 4, lines 31].
As for the use by one or more applications, see claim 37 below.

As per claims 9, Merriam teaches the computing device wherein the context service module is configured to receive a request for current device context information [col. 3, lines 43 to col. 4, lines 31].

As for the use by one or more applications, see claim 37 below.

As per claims 11, 21 and 30, Reed et al teach the invention further comprising one or more application program interfaces (APIs) operably associated with the context service module, the one or more APIs being callable by one or more applications to acquire information concerning the current device context [See the rejection below on Claim 37. Col.95 lines 66-67 and Col.96, lines 1-60].

As per claims 12, 22 and 31, Wang teaches a computing device further comprising one or more events that are configured to receive information concerning a current device context responsive to the occurrence of one or more events [Col. 5, lines 49 to col. 6, line 31].

As for the use by one or more applications, see claim 37 below.

As per claim 37, Merriam and Wang teach all the limitations of the invention as explained in claims 1, 13, 58 and 59 above. However, Merriam and Wang are silent about using one or more application program interfaces (API).

Nonetheless, this feature is well known in the art and would have been an obvious modification of the system disclosed by Merriam and Wang, as evidenced by Reed et al USPN. (6088717).

In an analogous art, Reed et al, teach using application program interfaces (API) to transfer and access data, metadata, and methods of communications operations between provider computer and consumer computer through a communication network. Transfer of metadata and methods permits intelligent processing of information [abstract and Col.141, lines 60-67 and Col.142, lines 1-29].

Giving the teaching of Reed et al, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Merriam and Wang by providing Reed et al's API communication system for the advantage of accessing data, metadata, and methods of communications objects stored in databases and for a further of advantage of facilitating request services from another application within a desktop, server or network operating environment [Col.141, lines 60-67 and Col.142, lines 1-18].

As per claim 38, Merriam teaches the location-aware computing system of claim 37, wherein at least one of the one or more computing devices comprises a mobile computing device [col. 1, line 5 and Col. 3, lines 5-8].

As per claim 39, Merriam teaches the location-aware computing system of claim 37, wherein at least one of the one or more computing devices comprises a desktop computing device [col. 1, line 5 and Col. 3, lines 5-8].

As per claim 40, Merriam teaches the location-aware computing system of claim 37, wherein the location provider interface is configured to receive location information from multiple different location providers [col. 3, lines 43 to col. 4, lines 5].

As per claim 41, Merriam teaches the location-aware computing system of claim 37, wherein the location provider interface is configured to receive location information from multiple different location providers, the location service module being configured to poll one or more of the location providers so that the polled location provider can provide location information to the location provider interface [col. 3, lines 43 to col. 4, lines 5].

As per claim 42, Merriam teaches the location-aware computing system of claim 37 further comprising:

Wang teaches a hierarchical tree structure resident on the media and comprising multiple nodes each of which represent

geographical divisional of the Earth, the location service module being configured to process the information to ascertain a current device location that comprises one rode on the hierarchical tree structure [abstract. See also col. 12, lines 18-41].

As per claims 43 and 44, include similar limitations as discussed in claim 37 and 42 above. Therefore, they are rejected for the same rationale.

As per claim 56, 57 and 62, Reed et al as modified teach the computer-implemented method of claim 59 further comprising receiving a request from one or more applications for information that pertains to a current device location and providing the one or more applications with the information that pertains to the current device location [Col.141, lines 36-67 and Col.142, lines 1-18].

As per claims 63, Reed et al teach the computer-implemented method of claim 62, wherein the receiving of the request comprises receiving a call to an application program interface (API) [Col.141, lines 36-67 and Col.142, lines 1-18].

As per claim 64, Wang teaches the computer-implemented method of claim 62, wherein the receiving of the request comprises receiving an event registration [col. 12, lines 18-41].

As per claim 65, Reed et al as modified teaches the computer-implemented method of claim 62 further comprising applying a security policy to the information that pertains to the current device location before providing the information to the one or more applications [Col. 113, lines 7-64].

As per claim 67, see the rejection made on claims 1 and 37 above. Therefore, the claim is rejected with the same rationale.

Conclusion

5.   The prior made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yasin Barqadle whose telephone number is 703-305-5971. The examiner can normally be reached on 9:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Burgess can be reached on 703-305-9717. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

GLENTON B/ BURGESS
SUPERVISORY PATENT EXAMINER
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